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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ken Mitsubori

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EXAMINER

SHAH, SAMIR M

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,398	Applicant(s) MITSUBORI ET AL.	
	Examiner SAMIR M. SHAH	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-15 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/12/06; 1/16/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 6 and 8-12 are objected to because of the following informalities:
 - (a) As to claim 6, last line, the phrase "passage between" renders the claim incomplete, which is also apparent from the lack of a period " . " at the end of the claim.

Claim 6, being an incomplete claim, is not in condition for examination for its patentability and therefore, has not been examined on the merits, in this Office Action.

Note, as to claim 6, reference Schönfeld, used in the rejection of claim 1 below,

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discloses "type of fluid used may be gaseous or liquid, such as compressed air" or non-compressible water/oil (column 1, lines 66-68; column 4, lines 26-36).

(b) Claim 8 recites the limitation "the non-compressive fluid" in line 2. There is insufficient antecedent basis for this limitation in the claim.

(c) Claim 9 recites the limitation "the inside non-compressive fluid" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

(d) Claim 10 recites the limitation "the non-compressive fluid" in line 2. There is insufficient antecedent basis for this limitation in the claim.

(e) Claim 11 recites the limitation "the non-compressive fluid" in line 2. There is insufficient antecedent basis for this limitation in the claim.

(f) Claim 12 recites the limitation "the non-compressive fluid" in line 2. There is insufficient antecedent basis for this limitation in the claim.

4. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 5, 6, 11 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) As to claim 5, the phrase "a half distance between centers of the adjacent openings of the second fluid supply passage is smaller than a distance from the center of each of the openings to an open outer peripheral end of the thrust supporting part" in claim 5 and the phrase "the half distance 52 between the centers becomes smaller than the distance 53" described in the specification, page 40, lines 10-12 are mutually contradictory, as reference numeral 52 in Fig. 7 is half the distance between centers, and the distance between centers is larger than the distance 53 to the outer circumference open edge.

(b) As to claim 6, last line, the phrase "and/or" renders the claim indefinite because the claim may (in the case of "and") or may not (in the case of "or") include the limitations immediately before and after the phrase "and/or", thereby rendering the scope of the claim unascertainable. See MPEP § 2173.05(d).

(c) As to claim 11, last line, the phrase "and/or" renders the claim indefinite because the claim may (in the case of "and") or may not (in the case of "or") include the limitations immediately before and after the phrase "and/or", thereby rendering the

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scope of the claim unascertainable. See MPEP § 2173.05(d).

(d) As to claim 15, last line, the phrase "and/or" renders the claim indefinite because the claim may (in the case of "and") or may not (in the case of "or") include the limitations immediately before and after the phrase "and/or", thereby rendering the scope of the claim unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 7-11, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Schönfeld et al. (US Patent 4,627,747 henceforth "Schönfeld").

(a) As to claim 1, Schönfeld discloses a rotatably supporting device (1) for correcting balance of a rotating body (18), provided in a balance correcting device measuring an unbalance force, for rotatably supporting the rotating body (18) (figures 1-6; column 2, line 65 - column 3, line 68), comprising:

a journal supporting part (4) having a mandrel (5) that rotatably supports the rotating body (18) in a floating state about a vertical axis (figures 1-6; column 2, line 65 - column 3, line 68);

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a thrust supporting part (13) that is provided at a lower end portion of the mandrel (5) and supports a bottom part (22) of the rotating body (18) in the floating state (figures 1-6; column 2, line 65 - column 3, line 68);

a first fluid supply passage (7) that supplies a fluid (40) for floating between the mandrel (5) and a rotation support hole (24) of the rotating body (18) (figures 1-6; column 2, line 65 - column 3, line 68);

an annular groove (12) provided in the thrust supporting part (13) so as to face the bottom part (22) of the rotating body (18) (figures 1-6; column 2, line 65 - column 3, line 68); and

a second fluid supply passage (17) that communicates with the annular groove (12) to supply a fluid (40) thereto for floating the rotating body (18) (figures 1-6; column 2, line 65 - column 3, line 68).

(b) As to claim 7, Schönfeld discloses a rotatably supporting device (1) for correcting balance of a rotating body (18), provided in a balance correcting device measuring an unbalance force, for rotatably supporting the rotating body (18) (figures 1-6; column 2, line 65 - column 3, line 68), comprising:

a journal supporting part (4) having a mandrel (5) that rotatably supports the rotating body (18) in a floating state about a vertical axis (figures 1-6; column 2, line 65 - column 3, line 68);

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a thrust supporting part (13) that is provided at a lower end portion of the mandrel (5) and supports a bottom part (22) of the rotating body (18) in the floating state (figures 1-6; column 2, line 65 - column 3, line 68);

a fluid supply passage (7) that supplies a fluid (40) for floating between the mandrel (5) and a rotation support hole (24) of the rotating body (18) (figures 1-6; column 2, line 65 - column 3, line 68);

wherein a space part (23) is formed in at least either one of the mandrel (5) and the rotation support hole (24) for widening a space other than at a supporting portion (figures 1-6; column 2, line 65 - column 3, line 68).

(c) As to claim 8, Schönfeld discloses a second fluid supply passage (17) being provided for supplying a non-compressive fluid (40) for floating the rotating body (18) to the thrust supporting part (13) facing the bottom part (22) of the rotating body (18) (figures 1-6; column 1, lines 66-68; column 2, line 65 - column 3, line 68).

(d) As to claim 9, Schönfeld discloses a discharge path (16) communicated with the space part (23) being provided for discharging an inside non-compressive fluid (40) (figures 1-6; column 1, lines 66-68; column 2, line 65 - column 3, line 68).

(e) As to claim 10, Schönfeld discloses a second discharge path (6) being provided to open upward on a topmost supporting portion between the mandrel (5) and the

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rotation support hole (24) of the rotating body (18) (figures 1-6; column 1, lines 66-68; column 2, line 65 - column 3, line 68).

(f) As to claims 11 and 15, Schönfeld discloses discharge means (34) for forcibly discharging non-compressive fluid (40) being provided at the discharge path (16) or the second discharge path (6) (figures 1-6; column 1, lines 66-68; column 2, line 65 - column 3, line 68; column 4, lines 26-36).

(g) As to claim 14, Schönfeld discloses an annular groove being provided in a front end portion of the fluid supply passage (7) of the journal supporting part (4) (figures 1-6; column 1, lines 66-68; column 2, line 65 - column 3, line 68; column 4, lines 26-36).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 2 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schönfeld, as applied to claim 1 above, and further in view of Saburo et al. (Japanese Patent Application Publication JP 63-176813 henceforth "Saburo").

(a) As to claims 2 and 13, Schönfeld does not expressly disclose an annular projection portion as specifically defined in the claim. Schönfeld discloses the second fluid passage (17) being provided so as to open on the thrust supporting part (13) (figures 1-6; column 2, line 65 - column 3, line 68).

Saburo discloses a "bearing device" including an annular projection portion/circular groove (22) that is provided on a thrust sliding surface of a sleeve (2), which forms a gap and which is provided with a fluid supply passage providing fluid (8) by opening on the thrust sliding surface of the sleeve (2) (figures 1-9; abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schönfeld's thrust supporting part (13) so as to include an annular projection portion/"circular groove", as taught by Saburo, because this would provide a non-contact way of supporting the rotating body, as suggested by Saburo.

12. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schönfeld, as applied to claim 1 above, and further in view of Kazuyuki et al. (Japanese Patent Application Publication JP 04-327022 henceforth "Kazuyuki").

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(a) As to claims 3 and 4, Schönfeld does not expressly disclose an annular throttle portion as specifically defined in claims 3 and 4. Schönfeld discloses the second fluid passage (17) being provided so as to open on the thrust supporting part (13) (figures 1-6; column 2, line 65 - column 3, line 68).

Kazuyuki discloses a “static pressure bearing testing device” including an annular throttle portion/“thrust flange” (18), with a T-shaped cross-section, formed on a portion of a shaft (4) (figure 1-5; abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schönfeld’s thrust supporting part (13) so as to include a throttle portion/T-shaped thrust flange, as taught by Kazuyuki, because this would provide non-contact sustainable support to rotating body (18), as suggested Kazuyuki.

Allowable Subject Matter

13. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

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15. The prior art made of record and not relied upon, cited in the attached 892 form, is considered pertinent to applicant's disclosure.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samir M. Shah whose telephone number is (571) 272-2671. The examiner can normally be reached on Monday-Friday 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Samir M. Shah

Art Unit 2856

03/28/2009

/Hezron Williams/

Supervisory Patent Examiner, Art Unit 2856